



**AFFIDAVIT UNDER 37 CFR 1.132**

Comes David Krill having been duly cautioned and sworn, and states the following:

1. My name is David Krill and I am a practicing periodontist actively engaged in the practice of periodontics in Hamilton County, Ohio.
2. I have been engaged in the practice of dentistry for 25 years.
3. In my dentistry practice, I am well acquainted with products, instruments and devices offered for sale to the dentistry profession, including dental mirrors to be used during intra-oral procedures.
4. In my practice, a dental mirror is one the most used often used instruments. A great problem that I endure on a daily basis is that the mirror that I am using becomes obscured repeatedly during a procedure by debris, and I must withdraw the mirror from the patient's mouth, wipe it clean, and then re-insert it and get re-oriented to continue the procedure.
5. I am not aware of any dental mirrors in the market with provisions for air and/or water incorporated in them to assist in actively keeping the mirror clean.
6. I am familiar with the dental mirror invented by Don Carter and Dr. David Croop that incorporates air and water therein. Specifically, I am familiar with aspects of the Carter/Croop mirror in which fine, pushbutton valve control of the air and water has been designed to be on the mirror handle in a position where it is accessible and operable by the thumb of the hand holding the mirror. The miniature valves allow control of air and water without increasing the cross sectional size of the mirror handle beyond that of a dental handpiece. I have reviewed U.S. Pat. No. 5,045,055 licensed to Den-Tal-Ez, Inc., and am, in fact, familiar with the product marketed by Den-Tal-Ez, Inc., under that patent. I do not believe the valve arrangement in the Den-Tal-Ez device could be utilized with an air and water mirror because of its size, designed location and manner of being manipulated. Putting the valve block of the Den-Tal-Ez device in a mirror handle would make it unwieldy and cumbersome.
7. I am also aware of the alignment features of the Carter/Croop mirror, and I believe they are critically important to insure that the mirror lines up with the miniature valve pushbuttons and with the air and water nozzles. I have reviewed U.S. Pat. No. 2,984,909 to Johnston and do not believe its alignment features are adequate to keep the mirror oriented properly and spaced properly from the air and water jets because, even assuming the use of the Den-Tal-Ez type valves, the short crimped collar in the Johnston patent in combination with a grooved shank on the mirror does not provide a tight, stable or reliable locking device. In addition, there is no locking device preventing it from sliding in and out of the collar, and I do

not see how a locking clamp positioned near the collar could work since the shank has a groove in it.

8. Further, I am aware of the distinctive spray pattern of the Carter/Croop mirror in which a water nozzle is surrounded by multiple air nozzles. This feature is critical because it turns the water into a mixed air and water pressure spray, while also giving the operator the option to turn on just a burst of air or stream of water. Surrounding water with air jets ensures that the mixed spray is consistently directed toward the mirror in a controlled fashion. In addition, because of the difference in air pressure (typically 80 psi) and water pressure (typically 40 psi), I do not believe any arrangement in which a water line and air line are mixed internally would work because the higher air pressure would prevent or limit water from being expelled from its orifice. This is a disadvantage that I see in U.S. Pat. No. 4,629,425 to Detsch.

9. In my practice of dentistry, I am well acquainted with the requirement of autoclavability, including the necessity that high pressure must be endured as well as high temperature. I believe that the Carter/Croop mirror satisfies the requirement of autoclavability better than the prior art devices because all of its parts can withstand high temperature and high pressure.

10. I believe that the Carter/Croop mirror, with provisions for part by part replacement of the mirror, valve body section and individual valves, provides a reliable, highly maintainable and cost effective device. It provides an effective mirror that can be cleaned without removal and wiping during a procedure that can be readily repaired. Assembly and disassembly of the various parts does not compromise the alignment of the mirror with the air and water nozzles, or with the handle mounted pushbutton valves, contrary to the prior art devices. Assembly and disassembly of the Carter/Croop mirror also does not compromise the valve stem structure by exerting stress on it with set screws.

11. I believe the Carter/Croop mirror has recognized the long felt need of a dental mirror having air and water thereon and has solved problems of maintainability and reliability to provide an innovative and marketable product.

David B. Krill

STATE OF OHIO  
COUNTY OF HAMILTON

The foregoing affidavit was signed in my presence by DAVID B. KRILL  
this 15<sup>th</sup> day of JUNE, 2005.

My commission expires:

9-7-2009



Leslie A. Coles  
Notary Public  
LESLIE A. COLES  
Notary Public, State of Ohio  
My commission expires 09/07/2009